Remarks

Claims 1-20 were pending in the application. Claims 1-20 were rejected. Claim 1 is amended. Claims 7 and 15 are canceled without prejudice to or disclaimer of the subject matter recited therein. Claims 1-6, 8-14, and 16-20 are now pending. Claim 1 is the independent claim. Reconsideration of the amended application is respectfully requested.

The examiner required designation of Figs. 1 and 2 with a legend reading --Prior Art--. Substitute drawings are submitted herewith in which the legend has been added.

The examiner rejected claim 1-3, 11, and 12 under 35 USC §102(b) as being anticipated by JP '732.

Claim 1 is amended to include the features of claim 7, which is canceled, and to include certain other features. As amended, claim 1 recites a plate element for a fuel cell stack in a monopolar arrangement. The plate element includes a frame region, at least one inner region, a plurality of webs, and at least four bore holes in the frame region. The inner region is enclosed by the frame region. The plurality of webs extend from the frame region into the inner region and define, in the inner region, a flow guidance structure that is formed by recesses between the webs, such that fluid regions within anode pairs of the fuel cell stack are not separated and such that fluid regions within cathode pairs of the fuel cell stack are not separated. At least two of the bore holes are connected with the flow guidance structure. The plate element is made as a laminate of an insulating layer and two conductive layers which embed the insulating layer as if in a sandwich, such that the anodes and cathodes within the anode and cathode pairs are

electrically insulated from each other. Thus, the recesses necessarily pass through the plate element, acting as, for example, through-holes or perforations.

In contrast, JP '732 discloses a thin, conductive gas-permeable board used as a component in a fuel cell stack. JP '732 does not disclose or suggest a monopolar plate element that is made as a laminate of an insulating layer and two conductive layers that embed the insulating layer as if in a sandwich, such that the anodes and cathodes within the anode and cathode pairs are electrically insulated from each other, and that includes a flow guidance structure that is formed by recesses between the webs, such that fluid regions within anode pairs of the fuel cell stack are not separated and such that fluid regions within cathode pairs of the fuel cell stack are not separated, as recited in claim 1.

For at least the reason stated above, it is submitted that JP '732 does not anticipate the invention as recited in claim 1. Claims 2, 3, 11, and 12 depend from claim 1, and therefore also are not anticipated by JP '732. The rejection, therefore, should be withdrawn.

The examiner rejected claim 1-3, 11, and 12 under 35 USC §102(b) as being anticipated by JP '457.

Claim 1 is amended to include the features of claim 7, which is canceled, and to include certain other features. As amended, claim 1 recites a plate element for a fuel cell stack in a monopolar arrangement. The plate element includes a frame region, at least one inner region, a plurality of webs, and at least four bore holes in the frame region. The inner region is enclosed by the frame region. The plurality of webs extend from the frame region into the inner region and define, in the inner region, a flow guidance

structure that is formed by recesses between the webs, such that fluid regions within anode pairs of the fuel cell stack are not separated and such that fluid regions within cathode pairs of the fuel cell stack are not separated. At least two of the bore holes are connected with the flow guidance structure. The plate element is made as a laminate of an insulating layer and two conductive layers which embed the insulating layer as if in a sandwich, such that the anodes and cathodes within the anode and cathode pairs are electrically insulated from each other. Thus, the recesses necessarily pass through the plate element, acting as, for example, through-holes or perforations.

In contrast, JP '457 discloses a fuel cell in which adjacent cells are partitioned by a laminated, grooved separator. JP '457 does not disclose or suggest a monopolar plate element that is made as a laminate of an insulating layer and two conductive layers that embed the insulating layer as if in a sandwich, such that the anodes and cathodes within the anode and cathode pairs are electrically insulated from each other, and that includes a flow guidance structure that is formed by recesses between the webs, such that fluid regions within anode pairs of the fuel cell stack are not separated and such that fluid regions within cathode pairs of the fuel cell stack are not separated, as recited in claim 1.

For at least the reasons noted above, it is submitted that JP '457 does not anticipate the invention as recited in claim 1. Claims 2, 3, 11, and 12 depend from claim 1, and therefore also are not anticipated by JP '457. The rejection of claims 1-3, 11, and 12, therefore, should be withdrawn.

The examiner rejected claim 1-4, 8, 9, 11, 12, 16, and 17 under 35 USC §102(b) as being anticipated by JP '842.

Claim 1 is amended to include the features of claim 7, which is canceled, and to include certain other features. As amended, claim 1 recites a plate element for a fuel cell stack in a monopolar arrangement. The plate element includes a frame region, at least one inner region, a plurality of webs, and at least four bore holes in the frame region. The inner region is enclosed by the frame region. The plurality of webs extend from the frame region into the inner region and define, in the inner region, a flow guidance structure that is formed by recesses between the webs, such that fluid regions within anode pairs of the fuel cell stack are not separated and such that fluid regions within cathode pairs of the fuel cell stack are not separated. At least two of the bore holes are connected with the flow guidance structure. The plate element is made as a laminate of an insulating layer and two conductive layers which embed the insulating layer as if in a sandwich, such that the anodes and cathodes within the anode and cathode pairs are electrically insulated from each other. Thus, the recesses necessarily pass through the plate element, acting as, for example, through-holes or perforations.

In contrast, JP '842 discloses a separator for a solid high polymer fuel cell. JP '842does not disclose or suggest a monopolar plate element that is made as a laminate of an insulating layer and two conductive layers that embed the insulating layer as if in a sandwich, such that the anodes and cathodes within the anode and cathode pairs are electrically insulated from each other, and that includes a flow guidance structure that is formed by recesses between the webs, such that fluid regions within anode pairs of the fuel cell stack are not separated and such that fluid regions within cathode pairs of the fuel cell stack are not separated, as recited in claim 1.

For at least the reasons noted above, it is submitted that JP '842 does not anticipate the invention as recited in claim 1. Claims 2-4, 8, 9, 11, 12, 16, and 17 depend from claim 1, and therefore also are not anticipated by JP '842. The rejection of claims 1-4, 8, 9, 11, 12, 16, and 17, therefore, should be withdrawn.

The examiner rejected claim 1-3, 8, 9, 11, 12, 16, and 17 under 35 USC §102(b) as being anticipated by EP '347.

Claim 1 is amended to include the features of claim 7, which is canceled, and to include certain other features. As amended, claim 1 recites a plate element for a fuel cell stack in a monopolar arrangement. The plate element includes a frame region, at least one inner region, a plurality of webs, and at least four bore holes in the frame region. The inner region is enclosed by the frame region. The plurality of webs extend from the frame region into the inner region and define, in the inner region, a flow guidance structure that is formed by recesses between the webs, such that fluid regions within anode pairs of the fuel cell stack are not separated and such that fluid regions within cathode pairs of the fuel cell stack are not separated. At least two of the bore holes are connected with the flow guidance structure. The plate element is made as a laminate of an insulating layer and two conductive layers which embed the insulating layer as if in a sandwich, such that the anodes and cathodes within the anode and cathode pairs are electrically insulated from each other. Thus, the recesses necessarily pass through the plate element, acting as, for example, through-holes or perforations.

In contrast, EP '347 discloses a polymer electrolyte fuel cell stack. EP '347 does not disclose or suggest a monopolar plate element that is made as a laminate of an

insulating layer and two conductive layers that embed the insulating layer as if in a sandwich, such that the anodes and cathodes within the anode and cathode pairs are electrically insulated from each other, and that includes a flow guidance structure that is formed by recesses between the webs, such that fluid regions within anode pairs of the fuel cell stack are not separated and such that fluid regions within cathode pairs of the fuel cell stack are not separated, as recited in claim 1.

For at least the reasons noted above, it is submitted that EP '347 does not anticipate the invention as recited in claim 1. Claims 2, 3, 8, 9, 11, 12, 16, and 17 depend from claim 1, and therefore also are not anticipated by EP '347. The rejection of claims 1-3, 8, 9, 11, 12, 16, and 17, therefore, should be withdrawn.

The examiner rejected claims 1-20 under 35 USC §102(b) as being anticipated by EP '406, as evidenced by Muller. The examiner stated that the applicant cannot rely on foreign priority papers to overcome the rejection because a translation of the papers has not been made of record in accordance with 37 CFR 1.55, citing MPEP §201.15.

Submitted herewith is an English-language translation of the priority document, EP 02016923.1. This translation of the certified copy of the priority document is accurate, and is the same as the English-language translation of the present application, the present application being a direct copy of the priority application. It is submitted that the applicant has now perfected priority of the foreign application, and therefore the EP '406 reference no longer qualifies as prior art against the present application. The rejection of claims 1-10, therefore, should be withdrawn.

The examiner rejected claim 1-3, 8, 9, 11, 12, 16, and 17 under 35 USC §102(b) as being anticipated by Vitale et al.

Claim 1 is amended to include the features of claim 7, which is canceled, and to include certain other features. As amended, claim 1 recites a plate element for a fuel cell stack in a monopolar arrangement. The plate element includes a frame region, at least one inner region, a plurality of webs, and at least four bore holes in the frame region. The inner region is enclosed by the frame region. The plurality of webs extend from the frame region into the inner region and define, in the inner region, a flow guidance structure that is formed by recesses between the webs, such that fluid regions within anode pairs of the fuel cell stack are not separated and such that fluid regions within cathode pairs of the fuel cell stack are not separated. At least two of the bore holes are connected with the flow guidance structure. The plate element is made as a laminate of an insulating layer and two conductive layers which embed the insulating layer as if in a sandwich, such that the anodes and cathodes within the anode and cathode pairs are electrically insulated from each other. Thus, the recesses necessarily pass through the plate element, acting as, for example, through-holes or perforations.

In contrast, Vitale et al. disclose a fuel cell cooler-humidifier plate that does not include recesses as recited in claim 1. As shown, for example, in Figs. 6 and 7, the recesses that form the coolant flow channels 206 do not pass through the plate element 202, that is, fluid regions within the fuel cell stack are separated. The Vitale et al. plates are two-sided, so that coolant flow channels are locate don one side, with the other side providing a humidifier function. See column 9, lines 16-20. Instead, ribs and rib ends of

corresponding plates in adjacent plate stacks are aligned. See column 10, lines 18-33. Thus, Vitale et al. do not disclose or suggest a flow guidance structure that is formed by recesses between the webs, such that fluid regions within anode pairs of the fuel cell stack are not separated and such that fluid regions within cathode pairs of the fuel cell stack are not separated, as recited in claim 1.

For at least the reasons noted above, it is submitted that Vitale et al. do not anticipate the invention as recited in claim 1. Claims 2, 3, 8, 9, 11, 12, 16, and 17 depend from claim 1, and therefore also are not anticipated by Vitale et al. The rejection of claims 1-3, 8, 9, 11, 12, 16, and 17, therefore, should be withdrawn.

The examiner rejected claim 1-3, 5, and 11-13 under 35 USC §102(b) as being anticipated by Marvin et al.

Claim 1 is amended to include the features of claim 7, which is canceled, and to include certain other features. As amended, claim 1 recites a plate element for a fuel cell stack in a monopolar arrangement. The plate element includes a frame region, at least one inner region, a plurality of webs, and at least four bore holes in the frame region. The inner region is enclosed by the frame region. The plurality of webs extend from the frame region into the inner region and define, in the inner region, a flow guidance structure that is formed by recesses between the webs, such that fluid regions within anode pairs of the fuel cell stack are not separated and such that fluid regions within cathode pairs of the fuel cell stack are not separated. At least two of the bore holes are connected with the flow guidance structure. The plate element is made as a laminate of an insulating layer and two conductive layers which embed the insulating layer as if in a

sandwich, such that the anodes and cathodes within the anode and cathode pairs are electrically insulated from each other. Thus, the recesses necessarily pass through the plate element, acting as, for example, through-holes or perforations.

In contrast, Marvin et al. disclose a fuel cell assembly unit having fluid flow plates 200 having a fluid flow face 202 on one side, and no recess that goes through the plate to allow for fluid regions within the stack that are not separated. Instead, Marvin et al. flow channels receive and transmit fluids through side ports 206 and 208. See Figs. 2 and 3, and column 5, lines 34-50.

For at least the reasons noted above, it is submitted that Marvin et al. do not anticipate the invention as recited in claim 1. Claims 2, 3, 5, and 11-13 depend from claim 1, and therefore also are not anticipated by Marvin et al. The rejection of claims 1-3, 5, and 11-13, therefore, should be withdrawn.

The examiner rejected claims 6, 7, 19, and 20 under 35 USC §103(a) as being unpatentable over JP '842, EP'347, or Vitale et al., in view of JP '268.

Claim 1 is amended to include the features of claim 7, which is canceled, and to include certain other features. As amended, claim 1 recites a plate element for a fuel cell stack in a monopolar arrangement. The plate element includes a frame region, at least one inner region, a plurality of webs, and at least four bore holes in the frame region. The inner region is enclosed by the frame region. The plurality of webs extend from the frame region into the inner region and define, in the inner region, a flow guidance structure that is formed by recesses between the webs, such that fluid regions within anode pairs of the fuel cell stack are not separated and such that fluid regions within

cathode pairs of the fuel cell stack are not separated. At least two of the bore holes are connected with the flow guidance structure. The plate element is made as a laminate of an insulating layer and two conductive layers which embed the insulating layer as if in a sandwich, such that the anodes and cathodes within the anode and cathode pairs are electrically insulated from each other. Thus, the recesses necessarily pass through the plate element, acting as, for example, through-holes or perforations.

JP '842, EP'347, or Vitale et al. are discussed above with respect to claim 1. JP '268 discloses a fuel cell having a multilayer separator with an insulating layer 1 and outer conducting layers 2. However, JP '268 does not overcome the deficiencies of JP '842, EP'347, and Vitale et al. with respect to claim 1. That is, JP '268 does not disclose or suggest a flow guidance structure that is formed by recesses between the webs, such that fluid regions within anode pairs of the fuel cell stack are not separated and such that fluid regions within cathode pairs of the fuel cell stack are not separated, as recited in claim 1, from which claims 6, 7, 19, and 20 depend.

Because at least the noted element of the claims is not disclosed or suggested by any of the cited references, it is submitted that no combination of the teachings of JP '842, EP'347, Vitale, and JP '268 could render obvious the invention as recited in claims 6, 7, 19, and 20. The rejection of claims 6, 7, 19, and 20, therefore, should be withdrawn.

Based on the foregoing, it is submitted that all rejections have been overcome. It

is therefore requested that the Amendment be entered, the claims allowed, and the case passed to issue.

Respectfully submitted,

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Date

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